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**MEDICAL JOURNAL CAIRO UNIVERSITY**

**Outcome of Unimicrobial Sepsis Versus Polymicrobial Sepsis,**NASHWA ABED, ASHRAF HEUSSEIN, SALLY SALAHELDINE, MAHMUOD MAHFOUZ and AHMAD HASSAN

**Abstract**
Objective: To assess the relationship between self care practices among diabetic patients and their diabetes control.
Subjects and Method: A total of 400 diabetic patients who were registered at two primary health care centers in Abha City, Kingdom of Saudi Arabia, were interviewed within the period from 1/8/20011 to 31/8/2011. Self-care practices of diabetic patients were assessed using the Summary of Diabetes Self-Care Activities (SDSCA). Biochemical laboratory inves-tigations were assessed, including plasma levels of fasting blood glucose.
Results: Most patients were type 2 diabetics (93.8%). Almost half of patients had poor fasting blood glucose control (47.8%), while 27.8% were managed by insulin. The mean scores for all components of practiced diabetes self-care activities were considerably low. The highest mean scores for diabetes self-care activities were foot care and specific diet (3.4±2.1 and 2.4±1.3, respectively). Younger diabetic patients tend to have significantly better mean scores for diabetes self-care. Male diabetic patients had significantly better mean scores for diabetes self-care as regard the items of general diet (p=0.01) and exercise (p<0.001). On the other hand, female diabetic patients had significantly better mean scores for diabetes self-care as regard the item of foot care (p=0.003). Generally, better educated diabetic patients have significantly better mean scores for diabetes self-care. Diabetic patients who had university education attained the highest mean scores for all self-care activities compared with illiterate or school-educated (i.e., primary, intermediate or secondary) patients. Differences were statistically significant for all items, except specific diet. Non-smoker diabetic patients have better mean scores for all diabetes self-care activities. However, differences were statistically significant only for the item of “exercise”. Type 1 diabetic patients have significantly better mean scores for diabetes self-care activities for the items of general diet (p<0.001), specific diet (p=0.007) and blood glucose (p<0.001). Patients with less duration of disease had significantly better mean scores for diabetes self-care activities for the items of exercise (p=0.020) and blood glucose (p=0.007). Patients with good control of diabetes had significantly better mean scores for all items of diabetes self-care activities except the item of “exercise”.

Conclusions: All components of practiced diabetes self-care activities are considerably low. Younger, male non-married educated patients have better self-care activities. Non-smoker patients have better mean scores for all self-care activities. Type 1 diabetic patients have better self-care activities. Patients with good control of diabetes have better diabetes self-care activities.
Recommendations: Health education for diabetes self-care activities need to be enforced. Points of insufficiency as regard diabetes self-care activities should be investigated and corrected. Continuing medical education for PHC providers should include and emphasize the education of diabetic patients on self-care activities.

**Clinical Predictors of Physiological Deterioration and Subsequent Cardio-Respiratory Arrest Among Critically Ill Patients,**ASHRAF H. ABD AL MOHSEN, MOHAMED A. SHEHATA, HASSAN M. KHALID and AHMED F. ROUSDY

**Abstract**
Objectives:
a-To study the ability and the feasibility of Modified Early Warning Score (MEWS) as a screening tool to predict the high risk critically ill patients who may develop cardio-respiratory arrest.
b-To compare between MEWS and the "Simplified Acute Physiology Score II" (SAPS II) regarding the sensitivity, specificity and applicability easiness.
Method: MEWS and SAPS II-Expanded were applied to 100 newly admitted patients to ICU. MEWS was calculated daily for each patient in the ICU to determinate the ScoreMax (90 days as the end point). Receiver operator characteristic (ROC) curve and diagnostic validity test for MEWS & SAPS II were calculated and compared.
Results: The MEWS score max grade of 8 or more was associated with the highest rate of cardio respiratory arrest event (sensitivity 78.9%, specificity 93.5, accuracy 88.00%, area under ROC curve AUC = 0.928). For SAPS II-Expanded grade of 50 or more was associated with the highest rate of cardio respiratory arrest event (sensitivity 71.1%, specificity 100%, accuracy 89.00%, AUC = 0.872). The mean and SD values of the SBP, RR and AVPU score in the MEWS Score-Max had a statistically significant difference between the arrested and the non arrested group of patients (p-value <0.05).
Conclusion: MEWS score is a useful screening tool to predict the high risk critically ill patients who may develop cardio respiratory arrest event. It has more sensitivity but less specificity than SAPS II and the accuracy of both is almost the same. It is easier, faster, simpler and cheaper than SAPS II therefore it should be recommended in clinical practice.

**Value of Modified Early Warning Score Among Critically Ill Patients,**ASHRAF H. ABD AL MOHSEN and MOHAMED A. SHEHATA

**Abstract**
Background: The modified early warning score (MEWS) is a simple clinical scoring system suitable for bedside appli-cation used to predict patients who may undergo a cardio-respiratory arrest event at the onset of admission in the hospital.
Materials and Methods: The MEWS is a tool for bedside evaluation based on five physiological parameters. Systolic blood pressure, pulse rate, respiratory rate, temperature and AVPU score (A for "alert", V for reading to vocal stimuli, P for "reading to pain", U for "unconscious were recorded". The MEWS were applied to 100 newly admitted patients to ICU. A MEWS of 4 or more represent a Critical score. The highest score reached during period of admission was labeled "score max". The diagnostic validity test was calculated together with the receiver operator characteristic (ROC) curve.
Result: In a total of 100 ICU admissions there were 38 pts who had cardiopulmonary arrest whether died or survived (i.e. the arrested group = 38) and 62 patients hadn't cardiop-ulmonary arrest i.e. non arrested group = 62 patient.
The MEWS score max grade of 8 or more was associated with the highest rate of cardio respiratory arrest event (sensi-tivity 78.9%, specificity 93.5, accuracy 88%, area under ROC curve = 0.988. The mean and SD values of SBP, RR and AVPU score in the MEWS score max had a statistically significant difference between the arrested and the non arrested group patients (p-value <0.05).
Conclusion: The physiological variables which can be associated clinically remain the fast and the simplest way for patient evaluation. The modified early warning score (MEWS) is a physiological scoring system that can predict patients at risk of deterioration and subsequent development of cardio-respiratory arrest.

**Association between Adhesion Molecules and Outcome in Acute Spontaneous Intracerebral Hemorrhage,***HISHAM MOHAMED, ASHRAF HUSSEIN, AMAL RISK, MOHAMED FAWZY and AHMED EL SHERIF*

**Abstract**
Background: Serum concentrations of adhesion molecules may be connected to the pathogenesis of secondary brain injury after spontaneous intracerebral hemorrhage (ICH). This study posits the hypothesis that levels of adhesion molecules substantially increase after ICH and are decreased thereafter, and that they can predict treatment outcomes.
Methods: Our study was conducted as a prospective study on 25 patients with acute spontaneous ICH presenting to ER of EL Sahel teaching hospital over a period of 19 months (May 2012 to November 2013) confirmed by patient history and brain CT scan, who were investigated with serial serum levels of adhesion molecules (sICAM) during their hospital stay compared to levels in control group. The studied popu-lation was divided into two groups; group 1 (25 patients) with acute ICH and group 2 (25) young volunteers. The case group was divided as regards the outcome into two subgroups; bad outcome and good outcome by using the modified Rankin Disability Scale (mMRS).
Results: Fifteen patients had bad outcome and 10 had good outcome. Statistical analysis of adhesion molecules between patients with good and poor outcome revealed sig-nificant differences in hypertension (p=0.009), ICH volume and intraventricular hemorrhage (p=0.000 1 and 0.05 1, respec-tively), GCS on admission (p=0.0001), and sICAM levels on admission (p=0.009). Cutoff point for the studied population for sICAM level on admission at 455ng/ml could predict poor outcome with sensitivity 73% and specificity 80%, at 680ng/ml could predict clinical seizures at sensitivity 100% and speci-ficity 8 1 %, and at 505ng/ml could predict non survivors with sensitivity 89% and specificity 88%.
Conclusion: Persistent increase in sICAM level implies a danger of poor therapeutic outcome for the treatment of spontaneous ICH during hospitalization. ICAM level in serum correlates positively with age, ICH volume and the duration of ICU and hospital stay. Cutoff point for the studied population for sICAM level on admission at 455ng/ml predicted poor outcome with sensitivity 73% and specificity 80%. These findings are important because they offer a potential therapeutic target for patients with spontaneous ICH.

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**Egyptian Heart Journal**

**Acute Myocardial Perfusion Imaging- A Useful Tool For Evaluation Of Therapeutic Modalities & A Predictor Of Urgent Need For Revascularisation In Acute Coronary Syndromes**

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**Abstract**

We have been evaluating different therapeutic modalities using acute MPI, & we aimed at the use of acute MPI as a predictor of patients in need for urgent revascularization.Methods: A total of 85 patients with ACS were included in our study,57 males, mean age 52.9±10.6 years, 35% were diabetics, 50% hypertensive, 54% smokers, 30% dyslipidemic & 33% had + ve family history of CAD. Acute MPI was done by SPECT technique using triple head Gamma Camera. Every patient had two sets of images, first set done on admission by injecting 25 mCi Tc99m SestaMIBI intravenously before initiating therapeutic intervention and aquired within 6 hours of injection, Second set of images was aquired 2 days later . Myocardium at risk (MAR) was calculated using 20 segment scoring system from the 1st set of images (scale 0-4/segment). Residual ischemia (RI) was calculated from the second set of images. Salvage index (SI = MAR – RI / MAR x 100) was taken as an end point for successful reperfusion (SI > 30%).All risk factors and MPI parameters were analyzed as independent predictors for the need for urgent revascularization vs. conservative strategy. Results: Patients were subdivided according to therapeutic modality used into 3 groups Group I: (50 pts) received unfracionated heparin, group II: (20 pts) received low molecular weight heparin & group III: (15 pts) received GPIIb/IIIa. There was no statistical difference as regard risk factors, age, sex, & MAR. Salvage index was highest in group II & lowest with group I (39±21% vs 64±33.6% vs. 58±25%) P=0.07. Successful reperfusion was achieved in 67.3% in group I & 90% of group II , 86.7% in group III (P = 0.06). Out of 85 pts, 31 patients (group A) were in need for inhospital target vessel revascularization & 54 patients(group B) showed a good response on medical treatment (conservative strategy). Compared to group B, Group A had higher values of RI (11±7 vs 5±4%, P<0.0001) & lower SI (15±6 vs. 67±24%, P<0.0001) despite similar MAR (14±7 vs. 15±8)p>0.05. High SI >60%, and absence of diabetes (DM) were good predictors for conservative management strategy (specificity 96%), however SI<30% as well as presence of DM may recognize patients in need for urgent revascularization (sensitivity 50%) with overall predictive accuracy of 78.8%. In conclusion: Acute MPI is a useful tool for evaluating therapeutic interventions. SI > 60%as well as absence of DM could recognize the subset of patients who can be managed conservatively whereas SI<30% as well as presence of DM may recognize patients in need for urgent revascularization.

**Prognostic value of IL6 in young adults presenting with acute coronary syndrome**

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**ABSTRACT** Background
Interest to evaluate the prognostic value of the inflammatory marker, IL-6 in young patients with ACS.

Methods
140 young patients (18–40 years old) with ACS, were included in this non-randomized prospective study. They were subjected to (a) full clinical evaluation (b) Laboratory evaluation (c) Standard 12 leads ECG and Echocardiography and (d) coronary angiography. The patients were divided into two groups, those with acute chest pain and positive coronary angiography (110 patients), and those with acute chest pain but with normal coronary angiography (control group, 30 patients).

Results
The IL-6 level was significantly higher in patients with documented CAD compared to the control group (39.56 ± 2.5 Vs 3.83 ± 0.79 P < 0.001). IL-6 level was significantly higher in patients with significant lesions who needed to perform PCI (92 patients) than patients with non-significant atherosclerotic plaques needing just medical treatment (18 patients) (45.5 ± 23.17 Vs 9.22 ± 1.93 P < 0.001). Higher level of IL-6 in STEMI patients (63 Patients 57%) than NSTEMI (23 Patients 21%) and UA (24 Patients 22%) (49.56 ± 23 Vs 43.5 ± 17 Vs 9.5 ± 2.53 respectively with P < 0.001) was observed. The optimal cutoff value for IL-6 level to predict morbidity was 41 pg/ml with a sensitivity of 100%, specificity of 66%, and positive predictive value of 25%, negative predictive value of 100% and the diagnostic accuracy of 69%.

Conclusion
The use of IL-6 as a prognostic marker for ACS may be of Value; it may predict the severity of CAD as well as the mortality and morbidity of young patients with acute coronary syndrome.

Long-Term Follow-up of Patients with Implantable

Cardioverter-Defibrillators and Impact on Survival

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The liberal use of Implantable Cardioverter-Defibrillators (ICD) in patients with life-threatening ventricular arrhythmias

has led to questioning the real benefit in different categories of patients and raised the issue of selecting the appropriate candidate

and the appropriate mode (single Vs. dual-chamber ICD) particularly in patients with heart failure. The first ICD was implanted

at the Critical Care Center in 1994, and since then, over 65 devices have been implanted.

This study was designed to follow-up our implanted ICDs, to determine the effect on clinical course and ultimate outcome

and to determine the prevalence of sudden cardiac death episodes among ICD patients.

In this work, we assessed the long-term outcome in a group of 61 patients (51 males and 10 females), with a mean age of

46.3±16.1 years, (range 9-82 yrs) with symptomatic life threatening Ventricular Tachyarrhythmias (VTAs) who had single

chamber (45 pts), dual chamber (15 pts), and biventricular ICDs (one pt) implanted over a period of 132 months (from January

1994 to August 2005) at the Critical Care Medicine Department, Cairo University. Patients were followed-up for a mean period

of 40.3±27.8 months (range 1-120 months).

Data in this study were collected from the filing system in the follow-up clinic, including history, clinical evaluation,

indication for ICD implantation, and echocardiographic exam. ICDs were programmed for detection and therapy of VTAs plus

bradycardia pacing. Follow-up of patients was done by ECG, patient and device interrogation for battery status, charge time,

sensing and pacing functions and lead integrity.

Functional evaluation revealed non-significant improvement in LVEF% post-implantation (45.0±16.3% Vs. 46.6±14.8%,

p=NS). Seventeen patients (27.9%) showed inappropriate detection due to many causes; the commonest was inappropriate

settings (21.4%) and 16 pts (6.2%) experienced inappropriate therapies; (13.1% had therapies for AF). There was highly

significant difference in the success rate from 1st attempt between Cardioversion (CV) & Anti-tachycardia Pacing (ATP)

(81.8±21.4% Vs. 69.1±24.6%, p=0.003). Also, overall success of therapies showed significant difference between ATP & CV

(70.7±28.3% Vs. 46.1±34.2%, p<0.001). Hospital readmission was significantly reduced after implantation (3.1±1.8 Vs. 1.0±1.5,

p<0.001). Seventeen pts (27.9%) died during follow-up, 21.3% due to cardiac causes; 13.1% from pump failure and 8.2% due

to incessant VTAs.

Our data proved that ICD is effective in prolonging survival among patients resuscitated after symptomatic sustained VT

or VF. The inappropriate detection in 28%, inappropriate therapies in 26% and the mortality in 28% clearly show the complexity

of the problem of prevention of SCD despite modern techniqual advances. Despite enthusiasm for ICD therapy in patients at

a high risk for SCD, the cost of ICD implantation is also a major concern because of the limited health care resources available.

The role of ICD is obviously to change SCD to non-sudden death.

Key Words: ICD – Ventricular fibrillation – Ventricular tachycardia – Sudden cardiac death.